

09/672,63700AB152REMARKS

Claims 1-20 are currently pending in the subject application and are presently under consideration. Claim 1 has been amended herein. No claims have been cancelled herein. A listing of all pending claims is found at pages 2-5 of this Reply.

Applicants' representative appreciates the Examiner's indication that claims 5-8 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants' representative respectfully reserves the right to amend the claims to include allowable matter as indicated by the Examiner at a later date if necessary. However, no such amendments are presently believed necessary in view of the comments and amendments herein.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Provisional Rejection of Claim 1 Under the Judicially Created Doctrine of Obviousness-Type Double Patenting

Claim 1 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/929,837. A terminal disclaimer is submitted herewith in response to this rejection. Accordingly, withdrawal of this rejection is respectfully requested.

II. Rejection of Claims 1-10, 15, 17, 19, and 20 Under the Judicially Created Doctrine of Obviousness-Type Double Patenting

Claims 1-10, 15, 17, 19, and 20 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 6-9, 13-15, and 19 of U.S. Patent No. 6,734,866. A terminal disclaimer is submitted herewith in order to overcome this rejection. Therefore, it is respectfully requested that this rejection be withdrawn.

III. Rejection of Claims 1-3, 9-17, and 20 Under 35 U.S.C. §103(a)

Claims 1-3, 9-17, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Reddy *et al.* (U.S. 6,215,459) in view of Ramamurthy (U.S. 6,189,082), and further in view of Boger (U.S. 6,326,935). This rejection should be

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withdrawn for at least the following reasons. Neither Reddy *et al.* nor Ramamurthy nor Boger, alone or in combination, teach or suggest each and every aspect set forth in the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) *must teach or suggest all the claim limitations*. See MPEP §706.02(j). The *teaching or suggestion to make the claimed combination* and the reasonable expectation of success *must both be found in the prior art and not based on applicant's disclosure*. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

The present invention relates generally to the field of video displays and more particularly to an improved raster engine with a multiple color depth digital display interface. Independent claim 1 has been amended herein to set forth "A raster engine for interfacing a frame buffer in a computer system to one of a plurality of disparate displays, comprising: at least one control register programmable via the computer system to select a display mode; a dual port RAM device operative to obtain pixel data from the frame buffer; and a logic device having a parallel output, the logic device being adapted to *select appropriate pixel* data from the dual port RAM device according to the selected display mode, and to *remap the selected pixel data* according to the selected display mode; *the raster engine provides the remapped selected pixel data* at the parallel output via the logic device according to a *universal routing scheme* applicable to the plurality of disparate displays." Support for the subject amendments can be found, in the specification, for example, at page 11, lines 20-26: "The raster engine remaps the pixel data from the frame buffer format to an output format required by a selected display type according to a universal routing scheme, without requiring any rerouting of signals outside the raster engine. The raster engine thus provides programmable support for a

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plurality of color depth application programs, as well as interfacing thereof with a plurality of disparate displays having varying color depth capabilities, wherein the color depth refers to the number of bits per pixel." The raster engine of the subject claims "*is easily programmed to interface a computer system running a variety of application programs with a plurality of disparate display types.* The invention can thus be employed in high end as well as highly cost sensitive computer system applications in association with displays *ranging from high definition television (HDTV) to low resolution monochrome EL and/or LCD display panels.*" (Page 4, lines 26-31.) The raster engine of the subject claims is capable of selecting a display mode. (See, e.g., Claims 1, 21, 26, and 30.) "In addition, the raster engine can further comprise an integrated digital to analog converter (DAC) to support analog LCD displays and CRTs." (Page 9, lines 13-14.) Furthermore, "[p]rogrammable compare and register logic 4 allows a user or a host system application program to select appropriate display modes for interfacing a frame buffer with one or a plurality of disparate display devices." (Page 16, lines 23-25) Thus, the subject claims recite a system capable of selecting display modes for simultaneously displaying data on a variety of different types of (e.g. "disparate") displays. Reddy *et al.* does not teach or suggest these limitations of the subject claims.

Reddy, *et al.* discloses a controller that can provide data to two different displays simultaneously. Thus, Reddy, *et al.* teaches one controller that controls *two distinctly connected displays* thereby allowing switching between images on one display with images on another while providing two distinct outputs. The Examiner contends that Reddy *et al.* remaps proper pixel data in order to display said pixel data in respective display modes, additionally stating the Reddy *et al.* explicitly teaches a memory map (Figure 3) for displaying the pixel data. However, the memory map of Reddy *et al.* is nothing more than a delineation of a parsing scheme to separate 32-bit pixel words into four 8-bit pixel bytes, two of which are associated with a first *image* and the other two of which are associated with a second *image*. The flip-flops of Reddy *et al.* are associated with identifying leading/lagging edges of a signal to facilitate parsing a pixel word, but do not teach or suggest the aspect of remapping selected pixel data. While such may be remotely similar to pixel data selection, it is certainly not *remapping of selected pixel data*, as set forth in the subject claims. In contrast, the claimed invention selects pixel

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data and remaps selected pixel data. Thus, Reddy *et al.* fails to disclose each and every element set forth in independent claim 1.

Ramamurthy fails to overcome the aforementioned deficiencies of Reddy *et al.* with regard to independent claim 1. Ramamurthy relates to writing to one or more control registers during a burst cycle and/to selecting which control registers are written to. Specifically, Ramamurthy fails to teach or suggest the claimed aspect of *selecting* pixel data according to a selected display mode and *then remapping* selected pixel data.

Similarly, Boger fails to overcome the deficiencies of Reddy *et al.* and Ramamurthy with regard to independent claim 1. Boger relates to interlacing output between computer monitor and television displays, but does not teach or suggest the claimed aspect of *selecting* pixel data and *then remapping* selected pixel data.

Moreover, there is not proper motivation to combine Reddy *et al.* with Ramamurthy.

...‘virtually all [inventions] are combinations of old elements.’ Therefore an examiner may often find every element of a claimed invention in the prior art. *If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue.* Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. *Such an approach would be ‘an illogical and inappropriate process by which to determine patentability.’* *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453 (Fed. Cir. 1998) (*citations omitted*).

Reddy *et al.* is related to dual displays. In particular, the object is to display images on an external monitor (*i.e.*, via external output) while simultaneously displaying different information on an internal display (*i.e.*, via internal output) and being able to switch images there between. The Examiner cites Ramamurthy to introduce the element of a programmable chip. However, the asserted combination improperly defines the problem in terms of the solution. Defining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness. *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 45 USPQ2d 1977, 1981-82 (Fed Cir. 1998). The subject application, in fact, identifies a problem in the conventional

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art and provides the solution to that problem. In particular, the subject invention notes that conventional raster engines require manual rerouting of signal connects to interface different display formats. The present invention, therefore, provides a raster engine that selects appropriate pixel data and remaps selected pixel data for routing according to a universal routing scheme (See, e.g., Figures 14a and 14b) for output to a plurality of disparate display devices. None of the cited references is concerned with providing a universal routing scheme for a universal output to a plurality of disparate display devices. Accordingly, by introducing the solution into the problem facing the inventor at the time of conception, the Examiner has adopted a skewed view of the scope and content of the prior art. This evinces improper use of hindsight in selecting the prior art reference in which the invention taught is used against its teacher. Accordingly, the Examiner sidestepped the appropriate question of whether Ramamurthy in fact provides *proper* suggestion or motivation to be combined with Reddy *et al.* – which it does not as discussed *supra*.

In view of at least the above, it is readily apparent that neither Reddy *et al.* nor Ramamurthy nor Boger, alone or in combination, make obvious the subject invention as set forth in independent claim 1 (and claims 2, 3, 9-17, and 20, which depend respectively there from). Accordingly, withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 4, 18, and 19 Under 35 U.S.C. §103(a)

Claims 4, 18, and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Reddy *et al.* (U.S. 6,215,459) in view of Ramamurthy (U.S. 6,189,082), further in view of Boger (U.S. 6,326,935), and further in view of Schindler *et al.* (6,516,467). This rejection should be withdrawn for at least the following reasons.

Claims 4, 18, and 19 depend from independent claim 1, which is not made obvious by the combination of Reddy *et al.*, Ramamurthy, and Boger as detailed above with regard to Section III. Schindler *et al.* fails to overcome the deficiencies of the cited references with regard to independent claim 1. Specifically, Schindler *et al.* fails to teach or suggest the aspect of a raster engine that *both selects* pixel data according to a selected display mode *and remaps* selected pixel data to provide output according to a *universal routing scheme*. Accordingly, withdrawal of this rejection is respectfully requested.

09/672,63700AB152CONCLUSION

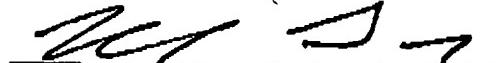
The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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